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U.S. Department of the Interior • U.S. Geological Survey

# MINERAL INDUSTRY SURVEYS

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## ZINC IN AUGUST 1996

Domestic mine production, expressed as recoverable zinc, declined by nearly 11% in August 1996 and by about 13% when compared with August 1995. Smelter production also declined by 11% and by about 7% compared to the previous month's production and production of August 1995. Apparent consumption in August was 10% higher than in July but 2% lower than in August 1995.

The imbalance in production and consumption was reflected in the price for zinc metal. According to the *Platt's Metals Week*, the composite price for North American Special Grade zinc in August was 51.26 cents per pound, 2.8% higher than the previous month's price and slightly higher than a year before.

According to the International Lead and Zinc Study Group (ILZSG), world zinc mine production for the first half of 1996 hit 3.53 million tons, an increase of 4% over the first half of 1995. The largest contributors to this increase were Canada, Australia, and Mexico. During the same period, production of refined zinc fell by 36,000 tons, mainly owing to decreased production in China and Japan. ILZSG estimates that some 3.69 million tons of refined zinc was consumed in the first half of 1996, a fall of 96,000 tons from year-earlier levels.<sup>1</sup>

Korea Zinc Co. Ltd., Akiko Gold Resources Ltd., and Chief Consolidated Mining have entered into a joint venture to develop the Burgin deposit near Tintic, Utah. It reportedly has minable reserves of 1.4 million tons at a grade of 21% lead, 6.7% zinc, and some silver. Planned annual production of 45,400 tons of lead and 9,000 tons of zinc reportedly should last for about 5 years.<sup>2</sup>

Canadian miner Cambior Inc. is aiming to produce 910,000 tons of ore in 1996 from its Gongague Langlois (known as Grevet) underground mine in northwestern Quebec, which opened in December 1995. Annual concentrate production, expressed in metal content, was expected to amount to 62,000 tons of zinc, 3,000 tons of copper, 9.7 tons of silver, and about 22 kilograms of gold. Most of the zinc is refined at Canadian

Electrolytic Zinc in Valleyfield, Quebec. The mine reportedly has proven and probable reserves of 11 million tons grading 8.41% zinc, 0.46% copper, 37 grams of silver per ton, and small amounts of gold.<sup>3</sup>

Pasminco Mining of Australia is to resume production at its Hercules Mine in Tasmania, Australia. Production is expected to start in October at an initial annual rate of 50,000 tons of ore, which reportedly will increase to 80,000 tons in 1997. Ore will be processed at the nearby Rosebery mill, where production of zinc-in-concentrate should increase from 5,000 tons in the first year to 8,000 tons annually in the second year.<sup>4</sup>

Outokumpu Oy of Finland has announced that it will invest \$112 million to increase the capacity of its Kokkola smelter, which currently produces about 3% of world zinc production. By using a new method of direct leaching of zinc concentrate, developed by Outokumpu, the Finnish smelter expects to boost capacity from 170,000 tons to 225,000 tons annually by the end of 1998.<sup>5</sup>

Melbourne-based Denehurst Ltd. has decided to close its Benambra copper-zinc mine, 290 kilometers east of Melbourne, Australia. Concurrently, it will develop the nearby Currawong deposit, which reportedly has measured, indicated, and inferred resources of almost 9 million tons grading 1.9% copper, 4% zinc, 0.7% lead, 38 g/t silver, and 0.8 g/t gold.<sup>6</sup>

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<sup>1</sup>Platt's Metals Week. Lead, Zinc Mine Production Up On 1995: ILZSG. Aug. 19, 1996.

<sup>2</sup>Mining Journal. Korea Zinc in Utah. V. 327, No. 8390, Aug. 9, 1996.

<sup>3</sup>Metal Bulletin. Cambior's Gongague Langlois Starts Production. No. 8106, Aug. 22, 1996.

<sup>4</sup>Metal Bulletin. Pasminco to Restart Tasmanian Mine. No. 8107, Aug. 29, 1996.

<sup>5</sup>American Metal Market. Outokumpu Sets \$112M Zinc Boost. V. 104, No. 152, Aug. 7, 1996.

<sup>6</sup>Metal Bulletin. "In brief" No. 8104, Aug. 15, 1996.

TABLE 1  
SALIENT ZINC STATISTICS 1/

(Metric tons)

	1995 p/			1996			
	Jan.-Aug.	August	Jan.-Dec.	June	July	August	Jan.-Aug.
Production:							
Mine, recoverable zinc	406,000	55,300 r/	601,000	49,900	53,700 r/	48,000	399,000
Smelter, slab zinc	247,000	29,400 r/	363,000	30,400	30,800	27,400	240,000
Oxide, (gross weight)	85,100	10,700 r/	130,000	10,300	9,100 r/	9,870	85,100
Consumption:							
Slab zinc, reported	436,000	44,000 r/	638,000	55,100 r/	48,900 r/	53,800	436,000
Ores e/ 2/	1,600	200	2,400	200	200	200	1,400
Zinc-base scrap e/ 2/	80,000	10,000	120,000	10,000	10,000	10,000	70,000
Copper-base scrap e/ 2/	88,000	11,000	132,000	11,000	11,000	11,000	77,000
Aluminum-and magnesium-base scrap e/ 2/	560	70	840	70	70	70	490
Total e/	606,000	65,300 r/	893,000	76,400 r/	70,200 r/	75,100	585,000
Apparent consumption, metal 3/	859,000 r/	97,000 r/	1,240,000	93,700	86,400 r/	95,100	763,000
Stocks of slab zinc, end of period:							
Producer 4/	XX	7,700 r/	XX	8,110	8,760	10,500	XX
Consumer 5/	XX	44,100	XX	37,500	39,700	39,100	XX
Merchant	XX	7,400	XX	1,980	1,930	1,350	XX
Total	XX	59,200 r/	XX	47,600	50,400	51,000	XX
Imports for consumption:							
Slab zinc	601,000	70,700	856,000	57,200	59,200	NA	447,000
Oxide	31,900	5,680	49,100	4,310	4,470	NA	33,800
Ore and concentrate	9,760	261	10,300	522	--	NA	1,500
Exports:							
Slab zinc	2,790	139	3,080	378	167	NA	1,090
Waste and scrap (zinc content)	37,600	4,030	55,900	4,250	2,660	NA	29,600
Ore and concentrate (zinc content)	198,000	32,900	424,000	3,920	100,000	NA	127,000
Oxide	4,240	525	7,090	348	480	NA	3,640
Price:							
Platt's Metals Week North American Special							
High Grade, average, cents per pound	54.77	51.23	55.83	49.57	49.87	51.26	50.54

e/ Estimated. p/ Preliminary. r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits, except prices; may not add to totals shown.

2/ Recoverable zinc content.

3/ Smelter production + imports - exports + beginning stocks - ending stocks.

4/ Includes stocks held at smelters and elsewhere by producers, as reported by ABMS, plus estimated additional data for smelters not reporting to ABMS.

5/ In addition to stocks reported by consumers on a monthly basis, about 10,000 tons was estimated to be held by companies reporting on an annual basis only.

6/ Includes data through July only. August data not available at time of publication.

TABLE 2  
MINE PRODUCTION OF RECOVERABLE ZINC IN THE UNITED STATES 1/

(Metric tons)

State	1995 p/			1996			
	Jan. - Aug.	August r/	Jan. - Dec.	June	July r/	August	Jan. - Aug.
Missouri	33,400	4,920	47,000	W	W	W	W
Other States 2/	373,000	50,400	554,000	49,900	53,700	48,000	399,000
Total	406,000	55,300	601,000	49,900	53,700	48,000	399,000

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing proprietary data; included in "Other States."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes Alaska, Colorado, Idaho, Illinois, Montana, New York, Oregon, and Tennessee, and State indicated by "W."

TABLE 3  
ESTIMATED TOTAL PRODUCTION, SHIPMENTS, AND STOCKS OF SLAB ZINC 1/ AND ZINC OXIDE 2/, BY MONTH 3/

(Metric tons)

Month	Stocks at beginning of month		Production		Shipments		Stocks at end of month 4/	
	Slab Zinc	Zinc Oxide	Slab Zinc	Zinc Oxide	Slab Zinc	Zinc Oxide	Slab Zinc	Zinc Oxide
1995: p/								
Jan.- Aug.	XX	XX	247,000	85,100	249,000	88,200	XX	XX
August	8,030	6,790	29,400	10,700	30,300	11,000	7,190	6,430
September	7,190	6,430	29,200	11,700	29,700	11,100	6,700	6,980
October	6,650	6,980	29,200	11,200	29,600	11,300	6,240	6,800
November	6,240	6,800	28,000	11,100	28,900	11,300	5,340	6,620
December	5,340	6,620	30,000	10,900	29,200	10,500	6,170	6,990
Total	XX	XX	363,000	130,000	368,000	132,000	XX	XX
1996:								
January	6,170	6,990	31,300	10,700	29,400	12,900	8,030	4,760
February	8,030	4,760	29,400	10,400	29,800	12,000	7,660	3,100
March	7,660	3,100	30,400	12,200	31,100	11,500	6,900	3,740
April	6,900	3,750	29,800	11,400	29,400	11,600	7,330	3,530
May	7,330	3,530	30,500	11,200	30,800	11,400	7,080	3,390
June	7,080	3,390	30,400	10,300	30,300	9,920	7,180	3,800
July	7,180	3,800	30,800	9,100 r/	30,100	9,560 r/	7,870	3,340 r/
August	7,870	3,340	27,400	9,870	26,300	10,200	8,960	3,060
Jan.- Aug.	XX	XX	240,000	85,100	237,000	89,100	XX	XX

p/ Preliminary. r/ Revised. XX Not applicable.

1/ ABMS reported data, plus additional reported and estimated data for smelters not reporting to ABMS.

2/ Excludes impure zinc oxide produced from other processes.

3/ Data are rounded to three significant digits; may not add to totals shown.

4/ In addition to stocks held at smelters, reported by ABMS, 1,560 tons of zinc was estimated to be held elsewhere in August 1996.

Sources: ABMS and U.S. Geological Survey.

TABLE 4  
ESTIMATED DISTRIBUTION 1/ OF ZINC OXIDE SHIPMENTS BY INDUSTRY 2/ 3/

(Metric tons)

Industry	1995 p/			1996			
	August	Jan.-Aug. r/	Jan.-Dec.	June	July r/	August	Jan.-Aug.
Agriculture	W	W	W	W	W	W	W
Ceramics	308	2,110	3,390	522	454	433	3,990
Chemicals	2,430	19,900	30,000	2,050	2,140	2,030	19,300
Paints	391	3,180	4,790	354	257	271	3,070
Photocopying	W	W	W	W	W	W	W
Rubber	7,360	56,300	85,300	6,590	6,310	7,040	58,800
Other	519 r/	4,400	8,900	407	395	374	3,920
Total	11,000	85,800	132,000	9,920	9,560	10,200	89,100

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other."

1/ Distribution of U.S. producers only. Imports excluded because distribution by industry cannot be distinguished.

2/ May include in-house consumption.

3/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 5  
APPARENT CONSUMPTION OF SLAB ZINC ACCORDING TO INDUSTRY USE AND PRODUCT 1/

(Metric tons)

Industry and product	1995 p/			1996			
	August r/	Jan.-Aug. r/	Jan.-Dec.	June r/	July r/	August	Jan.-Aug.
Galvanizing:							
Sheet and strip	41,600	336,000	490,000	37,300	36,800	38,700	308,000
Other	13,400	118,000	168,000	12,000	11,400	12,100	98,200
Total	55,000	453,000	658,000	49,300	48,200	50,800	406,000
Brass and bronze	12,200	116,000	165,000	11,900	11,500	12,700	98,600
Zinc-base alloy	16,600	178,000	250,000	16,300	13,700	16,800	133,000
Other uses 2/	13,300	112,000	166,000	16,300	13,000	14,800	125,000
Total apparent consumption	97,000	859,000	1,240,000	93,700	86,400	95,100	762,000

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes zinc used in making zinc dust, wet batteries, desilvering lead, powder, alloys, anodes, chemicals, castings, light metal alloys, zinc oxide, and miscellaneous uses not elsewhere specified.

TABLE 6  
AVERAGE MONTHLY ZINC PRICES

Month	North American Special High Grade cents/lb.	LME cash		Sterling exchange rate dollars/£
		cents/lb.	£/M.T.	
1995:				
August	51.23	46.01	647.45	1.566796
September	50.05	44.73	632.61	1.558970
October	49.68	44.41	620.52	1.577929
November	52.02	46.75	659.65	1.562476
December	50.87	46.18	660.89	1.540505
Year average	55.83	46.82	656.59	1.572016
1996:				
January	50.59	46.22	666.59	1.528771
February	50.69	46.98	674.37	1.535960
March	51.24	48.26	696.72	1.527062
April	50.61	47.42	689.57	1.516041
May	50.50	46.98	683.57	1.515236
June	49.57	45.75	654.20	1.541590
July	49.87	45.36	643.95	1.553005
August	51.26	45.67	649.68	1.549882

Source: Platt's Metals Week.

TABLE 7  
U.S. EXPORTS OF ZINC 1/

Material	1995		1996			
	Quantity (metric tons)	Value (thousands)	July		Jan.-July 2/	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Slab zinc	3,080	\$4,340	167	\$238	1,090	\$1,310
Ore and concentrate (zinc content)	424,000	201,000	100,000	46,200	127,000	59,100
Waste and scrap (zinc content)	55,900	36,100	2,660	1,790	29,600	18,800
Powders , flakes, and dust (zinc content)	8,840	15,800	862	1,520	6,740	12,900
Oxide (gross weight)	7,090	9,110	480	923	3,640	5,590
Chloride	1,690	1,250	402	356	998	830
Sulfate	4,210	2,260	196	114	2,850	1,620
Compounds, other	1,690	4,350	33	178	1,010	3,310

1/ Data are rounded to three significant digits.

2/ August data not available at time of publication.

Source: Bureau of the Census.

TABLE 8  
U.S. IMPORTS FOR CONSUMPTION OF ZINC 1/

Material	1995		1996			
	Quantity (metric tons)	Value (thousands)	July		Jan.-July 2/	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Slab zinc	856,000	\$903,000	59,200	\$62,700	447,000	\$477,000
Ore and concentrate (zinc content)	10,300	4,380	--	--	1,500	592
Waste and scrap (gross weight)	42,300	19,700	2,080	958	18,400	7,760
Powders, flakes, and dust (gross weight)	11,700	20,400	1,020	1,800	5,700	9,660
Oxide (gross weight)	49,100	54,200	4,470	4,520	33,800	34,100
Chloride	2,450	2,370	290	248	1,360	1,200
Sulfate	5,400	3,820	297	177	2,640	1,860
Compounds, other	1,850	2,490	139	138	864	850
Dross, ashes, and fume (zinc content)	10,900	8,260	1,300	906	8,750	6,160

1/ Data are rounded to three significant digits.

2/ August data not available at time of publication.

Source: Bureau of the Census.

TABLE 9  
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY 1/

(Metric tons)

Material and country	General imports			Imports for consumption		
	1995	1996		1995	1996	
		July	Jan.-July 2/		July	Jan.-July 2/
Ore and concentrate: (zinc content)						
Mexico	7,030	33	1,530	7,030	--	1,500
Peru	5,540	318	1,430	3,310	--	--
Other	463	--	161	15	--	--
Total	13,000	350	3,120	10,300	--	1,500
Blocks, pigs, or slab:						
Australia	15,400	--	6,970	18,200	--	7,350
Brazil	52,900	--	18,700	67,800	--	18,700
Canada	468,000	42,100	306,000	469,000	42,100	306,000
Finland	13,500	2,010	2,010	13,500	2,010	2,010
Mexico	99,200	5,910	55,600	99,200	5,910	55,600
Peru	21,500	4,480	19,300	21,500	4,480	19,300
Russia	12,800	--	2,670	12,800	--	2,670
Spain	109,000	--	25,600	98,000	4,730	29,300
Other	55,300	--	6,190	53,700	--	6,130
Total	848,000	54,500	443,000	856,000	59,200	447,000
Dross, ashes, & fume (content)	10,900	1,300	8,750	10,900	1,300	8,750
Grand total	872,000	56,100	455,000	877,000	60,500	458,000
Other (gross weight):						
Waste and scrap	42,300	2,080	18,400	42,300	2,080	18,400
Sheets	332	1,640	7,050	332	1,640	7,050
Dust, powder, flakes	11,700	1,030	5,700	11,700	1,020	5,700

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ August data not available at time of publication.

Source: Bureau of the Census.

TABLE 10  
U.S. IMPORTS FOR CONSUMPTION OF ZINC OXIDE, BY COUNTRY 1/

(Metric tons)

Country	1995	1996	
		July	Jan.-July 2/
Canada	24,800	2,070	16,000
China	3,040	4	2,070
Mexico	16,600	2,110	13,200
Other	4,640	286	2,590
Total	49,100	4,470	33,800

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ August data not available at time of publication.

Source: Bureau of the Census.